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| APPLICATION NO.               | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.    | CONFIRMATION NO. |
|-------------------------------|-------------|----------------------|------------------------|------------------|
| 10/776,536                    | 02/12/2004  | Ming-Jane Hsieh      | 3722-0178P             | 4138             |
| 2292                          | 7590        | 05/25/2005           | EXAMINER               |                  |
| BIRCH STEWART KOLASCH & BIRCH |             |                      | NATALINI, JEFF WILLIAM |                  |
| PO BOX 747                    |             |                      | ART UNIT               | PAPER NUMBER     |
| FALLS CHURCH, VA 22040-0747   |             |                      | 2858                   |                  |

DATE MAILED: 05/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/776,536

Applicant(s)

HSIEH ET AL.

Examiner

Jeff Natalini

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-14 is/are rejected.
- 7) ☒ Claim(s) 7 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/12/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/8/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4 and 8-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Shieh et al. (US Pub 2004/0108845).

In regard to claims 1 and 10, Shieh et al. discloses detecting states of a plurality of jacks (abstract), each jack comprising a first switch having a first normally closed terminal and a first output terminal (fig 2 (terminal 1 or 2)), when there is no external terminal being inserted into a jack, the first normally closed terminal of the jack is coupled to the first output terminal of the jack (fig 1a – terminals 1 and 3 are coupled), and when there is an external terminal being inserted into the jack, the first normally closed terminal of the jack is not coupled to the first output terminal of the jack (fig 1b – terminal 3 is coupled to the plug inserted into the jack), the detector comprising: a plurality of bias resistors each coupled to one of the first output terminals, respectively (fig 4 and fig 5b, even though they don't show the full 5 terminal jack, it is seen in the previous figures (1a, 1b)/disclosure/claims that the 5 terminal jack is used, and therefore terminals 1 and 3 are coupled and the plurality of bias resistors (figs 4 or 5, R1-R4) are coupled to the first output terminal (3)); a control unit for determining the states of the

plurality of jacks (para 46); wherein the first normally closed terminals are commonly coupled to a first node (and the control unit determines the states of the plurality of jacks according to a voltage at the first node (para 46 and truth table (in drawings but not labeled as a figure))).

In regard to claims 2 and 11, Shieh et al. discloses a pull-up resistor (fig 4 (R5)) having a first terminal coupled to a power source (Vdd), and a second terminal coupled to the first node (node all the first terminals are connected to).

In regard to claims 3, 4, 12, and 13, Shieh et al. discloses an analog to digital converter for outputting a decoding signal according to the voltage at the first node and a decoder for receiving the decoding signal and decoding the signal into a corresponding state signal which indicates the state of each of the jacks (the ADC converts the output signal and then determines the status based on the signal (para 46), seen also in truth table.

In regard to claims 8 and 9, Shieh et al. discloses where the bias resistors have different resistances where the resistances are sequenced in a geometric progression having a common ratio of 2 (figs 3, 4, and 5, all have four resistors where they go from R, 2R, 4R, and 8R).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shieh et al. (US Pub 2004/0108845) in view of Lee (US 5050214).

Shieh et al. lacks wherein a plurality of adjusting resistors through each of which one of the first normally closed terminals are coupled to the first node, respectively.

Lee discloses an audio connector jack that has an adjustable resistor through which one of the first normally closed terminals are coupled to the first node (fig 1-VR4 coupled to terminal b of jack, coupled to similar first node A).

It would have been obvious to one with ordinary skill in the art at the time the invention was made for Shieh et al. to incorporate an adjustable resistor that couples a normally closed terminal to the first node as taught by Lee in order to control the volume (col 2 line 23-28).

Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shieh et al. (US Pub 2004/0108845) in view of Chen et al. (US 6763087).

Shieh et al. lacks wherein a filter capacitor is coupled to the first node with a filter resistor coupled between the first node and the normally closed terminal in each jack.

Chen et al. teaches testing the status of a communication signal having a jack connecting (abstract) wherein the jack is coupled to a filter that allows a certain band pass (fig 3 (63 or 64)) through, this type of filter is known to use a resistor and capacitor.

It would have been obvious to one with ordinary skill in the art at the time the invention was made for Shieh et al. to incorporate a filter coupled to each jack as taught by Chen et al. in order to remove any noise that is in the communication signal.

### ***Allowable Subject Matter***

Claims 7 and 15 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In regard to claim 7 and 15, the prior art does not teach or render obvious a plurality of matching resistors each coupled to one of a second output terminal of a second switch in the jack, so as to match with an output resistance of the first and second switches of the plurality of jacks in the combination as claimed.

### ***Conclusion***

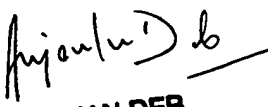
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lim (US Pub- 2003/0139204) teaches an apparatus for monitoring the state of an ear microphone. Kim et al. (US 6397087) teaches a device for controlling the connection of an ear microphone. Fincher et al. (US 5714934) teaches testing the states of each jack with an applied voltage and LEDs. Feldmen et al. (US 4600810) teaches a telephone line tester.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Natalini whose telephone number is 571-272-2266. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeff Natalini



**ANJAN DEB  
PRIMARY EXAMINER**